ISSN 0355-3140

Scandinavian Journal of Work, Environment & Health

Volume 22

1996

Contents

Published by

Finnish Institute of Occupational Health, Finland
National Institute of Occupational Health, Denmark
National Institute of Occupational Health, Norway
National Institute for Working Life, Sweden

Address: Topeliuksenkatu 41 a A, FIN-00250 Helsinki, Finland

Subscription for 1996 (6 regular issues plus supplements and special issue): FIM 800.00 surface mail to Scandinavian countries, FIM 900.00 surface mail to other countries, FIM 150.00 surcharge for air mail

Scandinavian Journal of Work, Environment & Health

Editor in chief: Sven Hernberg, Helsinki
Assistant editor in chief: Mikko Härmä, Helsinki
Technical editor: Georgianna Oja, Tampere
Editorial secretary: Maj-Britt Vääriskoski, Helsinki

Co-editors: Ib Andersen, Copenhagen;
Bengt Knave, Stockholm; and Tor Norseth, Oslo

Address: Topeliuksenkatu 41 aA, FIN-00250 Helsinki, Finland

Telephone: +358-(0)9- 47 471 (editors),
+358-(0)9- 474 7694 (business office), and +358-(0)3- 260 8644 (redactory office)

Telefax: +358-(0)9- 878 3326 (editors and business office) and +358-(0)3- 260 8615 (redactory office)

E-mail:
sven.hernberg@sgh.pp.fi
mikko.harma@occuphealth.fi
georgianna.oja@occuphealth.fi
maj-britt.vaariskoski@occuphealth.fi

WWW home page: http://paja.occuphealth.fi/sjweh

Bank: Merita Bank, Tukholmankatu 2,
FIN-00250 Helsinki, Finland (account number 226218-84276)

Subscription for 1996 (6 regular issues plus supplements):
FIM 800.00 surface mail to Scandinavian countries,
FIM 900.00 surface mail to other countries, FIM 150.00 surcharge for air mail.
Please send subscriptions to the Editorial Secretary, Maj-Britt Vääriskoski, at the address above.

Claims: The Journal cannot assume responsibility for replacing undelivered or damaged issues unless notified no later than six months following the month of publication.

Printed in Finland by Vammalan Kirjapaino Oy, 1996

Editorial Board

Torbjörn Åkerstedt, Stockholm
Johan A Aarli, Bergen
Anders Ahlbom, Stockholm
Antero Aitio, Helsinki
Bengt Arnetz, Stockholm
Gunnar Aronsson, Stockholm
Olav Axelson, Linköping
Lars Barregård, Göteborg
Ulf Bergqvist, Stockholm
Jens Peter Bonde, Århus
Hanne Christensen, Copenhagen
Erik Dybing, Oslo
Christer Edling, Uppsala
Carl Gustaf Elinder, Stockholm
Birgitta Floderus, Stockholm
Gösta Gemne, Stockholm
Finn Gyntelberg, Copenhagen
Mats Hagberg, Stockholm
Lars Hagmar, Lund
Timo Hakulinen, Helsinki
Rolf Hanoa, Oslo
Maila Hietanen, Helsinki
Gunnar Hillerdal, Stockholm
Bjørn Hilt, Trondheim
Erik Holst, Copenhagen
Pekka Huuhtanen, Helsinki
Juhani Ilmarinen, Helsinki
Anders Iregren, Stockholm
Kurt Jørgensen, Copenhagen
Bengt Järvholm, Umeå
Raija Kalimo, Helsinki
Lasse Kanerva, Helsinki
Timo Kauppinen, Helsinki
Åsa Kilbom, Stockholm
Helge Kjuus, Oslo
Stein Knardahl,Oslo
Tage S Kristensen, Copenhagen
Sverre Langård, Oslo
Marja-Liisa Lindbohm, Helsinki
Kari Lindström, Helsinki
Per Lundberg, Stockholm
Ulf Lundberg, Stockholm
Ritva Luukkonen, Helsinki
Elsebeth Lynge, Copenhagen
Per Malmberg, Stockholm
Antti Malmivaara, Helsinki
Lars Mølhave, Århus
Gunnar Nordberg, Umeå
Henrik Nordman, Helsinki
Hannu Norppa, Helsinki
Jørn Olsen, Århus
Timo Partanen, Helsinki
Vilhjálmur Rafnsson, Reykjavik
Kari Reijula, Helsinki
Hilkka Riihimäki, Helsinki
Ragnar Rylander, Göteborg
Kai Savolainen, Kuopio
Thomas Schneider, Copenhagen
Anne Seppälä, Helsinki
Staffan Skerfving, Lund
Torsten Skov, Copenhagen
Jukka Starck, Helsinki
Eva Støttrup Hansen, Copenhagen
Erkki O Terho, Turku
Töres Theorell, Stockholm
Antti Tossavainen, Helsinki
Harri Vainio, Lyon (France)
Eira Viikari-Juntura, Helsinki
Eva Vingård, Stockholm
Nina K Vøllestad, Oslo
Jan Wahlberg, Stockholm
Stig Wall, Umeå
Hans Wedel, Göteborg
Arne Wennberg, Stockholm

International Advisory Board

Pier Alberto Bertazzi, Milan
Aaron Blair, Bethesda, MD
Paolo Boffetta, Lyon
Alex Burdorf, Rotterdam
David Coggon, Southampton
Edward A Emmett, Philadelphia, PA
William E Halperin, Atlanta, GA
Denis Hémon, Paris
David Koh, Singapore
Antonio Mutti, Parma
Toshiteru Okubo, Kitakyushu
Harry Roels, Brussels
Roger Rosa, Cincinnati, OH
Gilles Theriault, Montréal
Kate Venables, London

The *Scandinavian Journal of Work, Environment & Health* is registered with the Copyright Clearance Center in the United States. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted to libraries and other users registered with the Center's Transactional Reporting Service, provided that the base fee of USD 1.00 per copy, plus USD 0.25 per page, is paid directly to the Copyright Center, 222 Rosewood Drive, Danvers, MA 01923, USA. For those organizations that have been granted photocopy license by CCC, a separate system of payment has been granted. The fee code for users of the Transactional Reporting Service is: 0355-3140/96 USD 1.00 + .25.

Contents

Volume 22, number 1, February 1996

Editorial

1 Buildings with moisture problems — a new challenge to occupational health care *K Reijula*

Reviews

5 Health effects of indoor-air microorganisms *T Husman*

Original articles

14 Incidence and risk factors of cancer among men and women in Norwegian agriculture *P Kristensen, A Andersen, LM Irgens, P Laake, AS Bye*

27 Mortality in a cohort of Russian fertilizer workers *MA Bulbulyan, NJ Jourenkova, P Boffetta, SV Astashevsky, AF Mukeria, DG Zaridze*

34 Pulmonary asbestos bodies and asbestos fibers as indicators of exposure *A Karjalainen, M Nurminen, E Vanhala, H Vainio, S Anttila*

39 Exposure to high-frequency transient electromagnetic fields *JH Skotte*

45 Work conditions and mental health among prison staff in France *P Goldberg, S David, MF Landre, M Goldberg, S Dassa, R Fuhrer*

Short communications

55 Underreporting of occupational cancers in Denmark *H Danø, T Skov, E Lynge*

58 Clonal chromosome aberrations in myeloid leukemia after styrene exposure *HA Kolstad, B Pedersen, J Olsen, E Lynge, G Jensen, I Lisse, P Philip, N Tinggaard Pedersen*

Case reports

62 A fatal case of hard-metal disease *E-L Ruokonen, M Linnainmaa, M Seuri, P Juhakoski, K-O Söderström*

Letters to the Editor

66 Testicular cancer in pesticide applicators in Swedish agriculture *J Dich, K Wiklund, L-E Holm*

67 Mesothelioma in oil refinery workers *M Finkelstein*

Meeting reports

68 Second international scientific conference on the prevention of work-related musculoskeletal disorders, PREMUS 95, 24—28 September 1995, Montreal (Canada) *E Viikari-Juntura*

Book reviews

71 Occupational health: recognizing and preventing work-related diseases *M Antti-Poika*

72 Epidemiology of work-related diseases *S Hernberg*

74 Risk assessment of essential elements *G Nordberg*

76 ***Noted elsewhere***

78 ***News***

79 ***Announcements***

Volume 22, number 2, April 1996

Editorial

81 Where do we go in occupational neuroepidemiology? *O Axelson*

Research programs

85 Health risks of electric and magnetic fields caused by high-voltage systems in Finland *J Valjus*

Original articles

94 Maximizing accuracy and precision using individual and grouped exposure assessments *NS Seixas, L Sheppard*

102 Improved nasal clearance among pulp-mill workers after the reduction of lime dust *K Torén, J Brisman, S Hagberg, G Karlsson*

108 Malignant melanoma among lithographers *H Nielsen, L Henriksen, JH Olsen*

112 Partition coefficients between human blood or adipose tissue and air for aromatic solvents *CH Pierce, RL Dills, GW Silvey, DA Kalman*

119 Quantitative magnetic resonance imaging and the electrophysiology of the carpal tunnel region in floor cleaners *C Pierre-Jerome, SI Bekkelund, SI Mellgren, T Torbergsen*

124 Effect of overtime work on cognitive function in automotive workers *SP Proctor, RF White, TG Robins, D Echeverria, AZ Rocskay*

133 Circadian adjustment of men and women to night work *T Hakola, MI Härmä, JT Laitinen*

139 Job strain and psychological distress in white-collar workers *R Bourbonnais, C Brisson, J Moisan, M Vézina*

Short communications

146 Diabetes mellitus among Swedish art glass workers — an effect of arsenic exposure? *M Rahman, G Wingren, O Axelson*

Case Reports

150 Elevated urinary cadmium concentrations in a patient with acute cadmium pneumonitis *Y Ando, E Shibata, F Tsuchiyama, S Sakai*

Meeting reports

154 IARC evaluates printing processes and printing inks, carbon black and some nitro compounds *J Wilbourn, C Partensky, WG Morgan*

Book reviews

157 Ergonomics at work: human factors in design and development *E-P Takala*

158 ***Noted elsewhere***

159 ***Announcements***

Volume 22, no 3, June 1996

Editorial

161 Beta carotene and cancer: risk or protection? *H Vainio*

Reviews

165 Occupation as a risk factor for knee disorders *L Kirkeskov Jensen, W Eenberg*

Original articles

176 Prevalence of musculoskeletal disorders at the wrist as a function of angles, forces, repetitiveness and movement velocities *JB Malchaire, NA Cock, AR Robert*

182 Terpene exposure and respiratory effects among sawmill workers *KA Eriksson, NL Stjernberg, JO Levin, U Hammarström, MC Ledin*

191 A thirteen-year follow-up of respiratory effects of acute exposure to sulfur dioxide *PL Piirilä, H Nordman, OS Korhonen, I Winblad*

197 Occupational injuries in the Finnish furniture industry *MVP Aaltonen*

204 Vibrotactile perception thresholds as determined by two different devices in a working population *M Wenemark, R Lundström, M Hagberg, T Nilsson*

211 Exercise testing of young, apparently healthy professional drivers *M Uglješić, K Belkić, D Bošković, S Bošković, M Ilić*

216 Accessibility and utilization of occupational health services *HN Plomp*

Short communications

223 Exposure to styrene and mortality from nonmalignant diseases of the genitourinary system *E Welp, T Partanen, M Kogevinas, A Andersen, T Bellander, M Biocca, D Coggon, V Fontana, H Kolstad, I Lundberg, E Lynge, A Spence, G Ferro, P Boffetta, R Saracci*

Case Reports

227 Is skull sawing by autopsy assistants overlooked as a cause of vibration-induced white fingers? *K Torén, P Jonsson*

Meeting reports

230 NORDQUAL'96 — The Second Nordic Workshop on Quality Assurance in Occupational Hygiene, 8—9 February 1996 *JO Levin*

231 AIRMON '96 — The Second International Symposium on Modern Principles of Air Monitoring, 4—8 February 1996 *JO Levin*

Book reviews

233 Air sampling instruments for evaluation of atmospheric contaminants *T Schneider*

235 ***News***

237 ***Noted elsewhere***

239 ***Announcements***

Volume 22, number 4, August 1996

Editorial

241 What's with epidemiologic meta-analyses? *T Partanen*

Reviews

243 Sick building syndrome, work factors and occupational stress *JO Crawford, SM Bolas*

Original articles

251 Validity of self-reported physical work load in epidemiologic studies on musculoskeletal disorders *E Viikari-Juntura, S Rauas, R Martikainen, E Kuosma, H Riihimäki, E-P Takala, K Saarenmaa*

260 Dietary intake of fish contaminated with persistent organochlorine compounds in relation to low birthweight *L Rylander, U Strömberg, L Hagmar*

267 Reproductive effects of paternal exposure to chlorophenate wood preservatives in the sawmill industry *H Dimich-Ward, C Hertzman, K Teschke, R Hershler, SA Marion, A Ostry, S Kelly*

274 Ubiquitous fiber exposure in selected sampling sites in Europe *T Schneider, G Burdett, L Martinon, P Brochard, M Guillemin, U Teichert, U Draeger*

285 Farming, pesticide use and hairy-cell leukemia *J Clavel, D Hémon, L Mandereau, B Delemotte, F Séverin, G Flandrin*

294 Job strain and ambulatory blood pressure levels in a population-based employed sample of men from northern Italy *G Cesana, M Ferrario, R Sega, C Milesi, G De Vito, G Mancia, A Zanchetti*

Occupational health regulations

306 Regulations on occupational diseases and the current situation in Germany *X Baur, K Weber, M Zaghow*

Case Reports

311 Allergic alveolitis in a school environment *Å Thörn, M Lewné, L Belin*

Commentaries

315 Significance testing of potential confounders and other properties of study groups — misuse of statistics *S Hernberg*

Book reviews

317 Aerosol science for industrial hygienists *A Tossavainen*

318 ***Noted elsewhere***

320 ***Announcements***

Volume 22, number 5, October 1996

Editorial

321 Human biomonitoring of trace elements — continued need for critical evaluation *G Nordberg*

Reviews

325 Evaluation of selected publications on reference values for lead in blood *L Gerhardsson, G Kazantzis, A Schütz*

Original articles

332 Occupational history and genetic N-acetyltransferase polymorphism in urothelial cancer patients of Leverkusen, Germany *K Golka, V Prior, M Blaszkewicz, I Cascorbi, W Schöps, G Kierfeld, I Roots, HM Bolt*

339 Brain tumor risk in offspring of men occupationally exposed to electric and magnetic fields *JR Wilkins III, LC Wellage*

346 Occupation and the risk of lung cancer in Uruguay *E De Stefani, M Kogevinas, P Boffetta, A Ronco, M Mendilaharsu*

353 Effects of long workhours on life-style, stress and quality of life among Japanese intermediate managers *S Maruyama, K Morimoto*

360 Glutathione S-transferase M1 null genotype as a risk modifier for solvent-induced chronic toxic encephalopathy *P Söderkvist, A Ahmadi, A Åkerbäck, O Axelson, U Flodin*

364 Prevalence of *Helicobacter pylori* infection among sewage workers *L Friis, L Engstrand, C Edling*

369 Hemorheology in occupational lead exposure *W Osterode*

374 Three-year follow-up of serial nerve conduction among lead-exposed workers *S-E Chia, K-S Chia, H-P Chia, C-N Ong, J Jeyaratnam*

381 Lipid peroxidation in workers exposed to manganese *S-J Yiin, T-H Lin, T-S Shih*

387 Hematopoietic and reproductive hazards of Korean electronic workers exposed to solvents containing 2-bromopropane *Y Kim, K Jung, T Hwang, G Jung, H Kim, J Park, J Kim, J Park, D Park, S Park, K Choi, Y Moon*

Book reviews

392 Chemoprevention in cancer control *H Vainio*

394 *Noted elsewhere*
395 *Announcements*

Volume 22, number 6, December 1996

Editorial
401 Exposure assessment — a challenge for occupational epidemiology *T Kauppinen*
Reviews
405 Quantification of historical exposures in occupational cohort studies *PA Stewart, PSJ Lees, M Francis*
Original articles
415 Exposure to 60-Hz magnetic and electric fields at a Canadian electric utility *J-E Deadman, BG Armstrong, G Thériault*
425 Experts' subjective assessment of pesticide exposure in fruit growing *J de Cock, H Kromhout, D Heederik, J Burema*
433 Spina bifida and parental occupation in a Swedish register-based study *BM Blatter, N Roeleveld*
438 Transient increase in DNA strand breaks in car refinishing spray painters *J Fuchs, JG Hengstler, F Hummrich, F Oesch*
444 Incidence of lung cancer among cobalt-exposed women *F Tüchsen, MV Jensen, E Villadsen, E Lynge*
451 Bronchial asthma and air pollution at workplaces *U Flodin, J Ziegler, P Jönsson, O Axelson*
Case reports
457 Provocation of the electromagnetic distress syndrome *A Toomingas*
Book reviews
459 Occupational Hygiene
460 *Noted elsewhere*
461 *News*
462 *Announcements*

Volume 22, suppl 1, 1996

1—24 Assessment of air quality in Stockholm by personal monitoring of nonsmokers for respirable suspended particles and environmental tobacco smoke *K Phillips, MC Bentley, DA Howard, G Alván*

Volume 22, suppl 2, 1996

1—56 Magnetic fields and leukemia — risk for adults living close to power lines *PK Verkasalo*

Volume 22, suppl 3, 1996

1—104 Health risk evaluation of ozone *G Bylin, I Cotgreave, L Gustafsson, F Nyberg, G Pershagen, J Sundell, K Victorin, A Zuber*